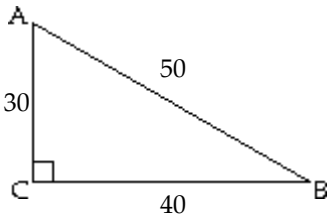
MATH 104/GRACEY
WORKSHEET/2.1–2.2

Name_____

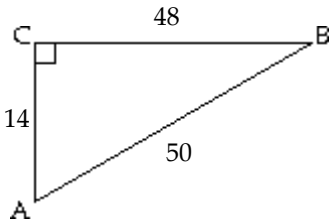
Find the exact values of the indicated trigonometric functions. Write fractions in lowest terms.

1)



Find sin A and cos A.

2)



Find sin B and tan B.

Without using a calculator, give the exact trigonometric function values with rational denominators.

3) sin 30°

4) cos 30°

5) cos 60°

6) sin 60°

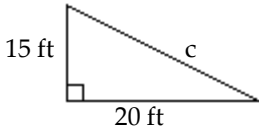
7) cot 45°

8) sec 45°

9) sec 30°

Find the length of the third side of the right triangle.

10)



Write in terms of the cofunction of a complementary angle.

11) sin 20°

12) cos 61°

13) tan 76°

Find a solution for the equation. Assume that all angles are acute angles.

14) $\sin(2\beta + 10°) = \cos(3\beta - 25°)$

15) $\tan(3\theta + 55°) = \cot(\theta + 9°)$

Decide whether the statement is true or false.

16) tan 19° > cot 19°

Without using a calculator, give the exact trigonometric function value with rational denominator.

17) cot 45°

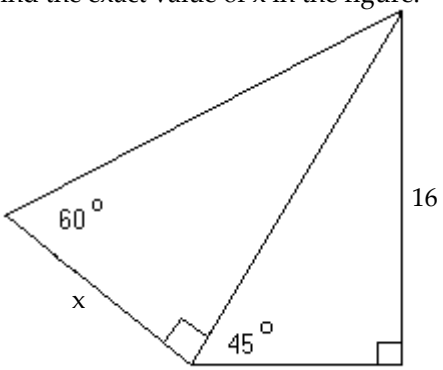
18) tan 60°

Solve the problem for the given information.

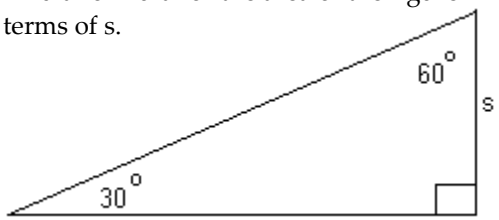
19) Find the equation of a line passing through the origin and making a 45° angle with the positive x–axis.

Solve the problem.

20) Find the exact value of x in the figure.



21) Find a formula for the area of the figure in terms of s.



Find the reference angle for the given angle.

22) A = –15.9°

23) A = 263.4°

Find the exact value of the following expression without using a calculator.

24) tan (60°)

25) cot (60°)

26) sec (30°)

27) sec (45°)

Find the exact function value if it exists.

28) tan 300°

29) tan 150°

30) cos 90°

31) sin 210°

32) cot 120°

33) sec (–210°)

Find the exact function value.

34) tan –315°

35) sin 1110°

Determine whether the statement is true or false.

36) $\cos 240° = 1 - \sin^2 120°$

Give the signs of the trigonometric functions.

37) cos (–302°) and sin (–302°)

Find all values of θ, if θ is in the interval [0, 360°) and has the given function value.

38) $\cos \theta = \frac{1}{2}$

39) $\sin \theta = -\frac{1}{2}$

40) sec θ is undefined

1) $\sin A = \frac{4}{5}$; $\cos A = \frac{3}{5}$

2) $\sin B = \frac{7}{25}$; $\tan B = \frac{7}{24}$

3) $\frac{1}{2}$

4) $\frac{\sqrt{3}}{2}$

5) $\frac{1}{2}$

6) $\frac{\sqrt{3}}{2}$

7) 1

8) $\sqrt{2}$

9) $\frac{2\sqrt{3}}{3}$

10) c = 25 ft

11) cos 70°

12) sin 29°

13) cot 14°

14) $\beta = 21°$

15) $\theta = 6.5°$

16) FALSE

17) 1

18) $\sqrt{3}$

19) y = x

20) $\frac{16\sqrt{6}}{3}$

21) $\frac{\sqrt{3}}{2} s^2$

22) 15.9°

23) 83.4°

24) $\sqrt{3}$

25) $\frac{\sqrt{3}}{3}$

26) $\frac{2\sqrt{3}}{3}$

27) $\sqrt{2}$

28) $-\sqrt{3}$

29) $-\frac{\sqrt{3}}{3}$

30) 0

31) $-\frac{1}{2}$

32) $-\frac{\sqrt{3}}{3}$

33) $-\frac{2\sqrt{3}}{3}$

34) 1

35) $\frac{1}{2}$

36) False

37) + and +

38) 60° and 300°

39) 210° and 330°

40) 90° and 270°